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Ed H. Frank

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EXAMINER

WIN, AUNG T

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/658,734	Applicant(s) FRANK ET AL.	
	Examiner AUNG T. WIN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-46 is/are pending in the application.
- 4a) Of the above claim(s) 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 11/17/2009 with respect to newly amended claims and additional new claims sets have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22, 27 & 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites "said at least one receiver is operable to receive said at least one polling message by said switch". It is unclear whether said receiver is receiving said polling message or said polling message is received by said switch.

Claims 27 & 37 recites Claims "its corresponding load" in claims 27 & 37. It is unclear what "its" refers to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-4, 9-12, 17-20, 26-31 & 37-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US20040039817A1).

1.1 Regarding Claim 1, Lee discloses **a method for providing load balancing in a hybrid wired/wireless local area network** [hybrid wired/wireless local area network: 0004] [a method for providing load balancing by selecting access point based on QBSS_load value: 0038, 0039, 0045-0059], **the method comprising:**

receiving at least one polling message from an access device by at least one of a plurality of access points [receiving probe request message from transmitting wireless station operating in active scanning mode: 0035-0037];

responsive to said at least one polling message, determining a load on each one of said plurality of access points; and sending said determined load of said each one of said plurality of access points to said access device, [each of transmitting AP determines QBSS Load value and sends probe response message

containing QBSS_Load value, which indicates the channel utilization or loading of corresponding transmitting AP: 0037-0038 & 0043] [selecting AP with lowest channel loading based on determined QBSS_load_value: 0049-0052, 055 & 0056].

Wherein, said access device re-establishes communication with one of said plurality of access points based on said sent determined load of said each one of said plurality of access points [selection algorithm based on determined loads as disclosed by Lee to select access point apply to both initially association with access point and roaming to a new access point: 0009 - 0061 & 0062] [subsequent access point selection: 0035].

1.2 Claim 9 is rejected for the same reason as stated above in Claim 1 rejection because claimed executing steps are substantially close to corresponding method of claim 1. The method executed by wireless station and access points as disclosed by Lee must have stored computer programs and programming codes for executing as claimed in claim 9 because wireless stations and access points are programmable wireless computing devices.

1.3 Regarding Claim 17, **Lee discloses a system for providing network management in a hybrid wired/wireless local area network** [hybrid wired/wireless local area network: 0004] [a system and method for providing load balancing by selecting access point based on QBSS_load value: 0038, 0039, 0045-0059], **the system comprising:**

at least one receiver of at least one of a plurality of access points, adapted to receive at least one polling message from an access device; [Access point receiver configured to receive probe request message from an transmitting wireless station operating in active scanning mode: 0035-0037]

at least one controller adapted to determine a load on each one of said plurality of access points in response to said at least one polling message; and at least one transmitter adapted to send said determined load of said each one of said plurality of access points to said access device responsive to said at least one polling message, determining a load on each one of said plurality of access points; and sending said determined load of said each one of said plurality of access points to said access device, [each of transmitting inherently implemented AP's controller determines QBSS_Load value and sends probe response message containing QBSS_Load value, which indicates the channel utilization or loading of corresponding transmitting AP: 0037-0038 & 0043] [selecting AP with lowest channel loading based on determined QBSS_load_value: 0049-0052, 055 & 0056].

Wherein, said access device re-establishes communication with one of said plurality of access points based on said sent determined load of said each one of said plurality of access points [selection algorithm based on determined loads as disclosed by Lee to select access point apply to both initially association with access point and roaming to a new access point: 0009 - 0061 & 0062] [subsequent access point selection: 0035].

1.4 Regarding Claims 27 & 31, Lee discloses **a method for communication, the method comprising:** [hybrid wired/wireless local area network: 0004] [a method for providing load balancing by selecting access point based on QBSS_load value: 0038, 0039, 0045-0059],

Transmitting a polling message from a mobile station in a hybrid wired/wireless local area network, wherein said transmitted polling message causes one or more of a plurality of access points that receives said transmitted polling message to determine its corresponding load;

Receiving from said one or more of said plurality of access points, said determined corresponding load for said one or more of said plurality of access points, and

[hybrid wired/wireless local area network: 0004] [receiving probe request message from transmitting wireless station operating in active scanning mode: 0035-0037] [each of transmitting AP determines QBSS Load value in response to received probe request message and sends probe response message containing QBSS_Load value, which indicates the channel utilization or loading of corresponding transmitting AP: 0037-0038 & 0043] [selecting AP with lowest channel loading based on determined QBSS_load_value: 0049-0052, 055 & 0056].

re-establishing communication by said mobile station with one of said plurality of access points based on said received determined load of said each one of said plurality of access points [selection algorithm based on determined loads as disclosed by Lee to select access point apply to both initially association with access

point and roaming to a new access point: 0009 - 0061 & 0062] [subsequent access point selection: 0035].

1.5 Regarding Claims 37 & 41, Lee discloses **a system for communication, the system comprising:** [hybrid wired/wireless local area network: 0004] [a method for providing load balancing by selecting access point based on QBSS_load value: 0038, 0039, 0045-0059],

One or more processors in a mobile station, said one or more processors are operable to transmit a polling message from said mobile station in a hybrid wired/wireless local area network, wherein said transmitted polling message causes one or more of a plurality of access points that receives said transmitted polling message to determine its corresponding load;

Said one or more processors are operable to receive from said one or more of said plurality of access points, said determined corresponding load for said one or more of said plurality of access points, and

[hybrid wired/wireless local area network: 0004] [one or more processors inherently implemented in the wireless station receiving probe request message from transmitting wireless station operating in active scanning mode: 0035-0037] [each of transmitting AP determines QBSS Load value in response to received probe request message and sends probe response message containing QBSS_Load value, which indicates the channel utilization or loading of corresponding transmitting AP: 0037-0038]

& 0043] [selecting AP with lowest channel loading based on determined QBSS_load_value: 0049-0052, 055 & 0056].

Said one or more processors are operable to re-establish communication by said mobile station with one of said plurality of access points based on said received determined corresponding load for said each one or more of said plurality of access points [selection algorithm based on determined loads as disclosed by Lee to select access point apply to both initially association with access point and roaming to a new access point: 0009 - 0061 & 0062] [subsequent access point selection: 0035].

1.6 As regards to Claims 2, 18 & 10, Lee discloses the method according to claims 1, 9 & 17, comprising access points, which must be in operating range of transmitting wireless station as claimed in order to receive probe request message according to 802.11 specifications [also see access points in the area: 0006].

1.7 As regards to Claims 3, 4, 11, 12, 19, 20, 28, 29, 30, 38, 39, 40, Lee discloses the method according to claims 2, 10, 18, 27 & 37 comprising selecting an access point from said plurality of access points having a least load [wireless station selects the AP with lowest channel loading based on determined QBSS_load_value and RSSI: 0049-0052, 055 & 0056].

1.8 As regards to Claim 26, inherently implemented AP's controller as stated above is one or more of: a bandwidth management controller, a quality of service controller, a load balancing controller, a session controller and a network management controller because Lee's system and method teaches balancing loads by roaming to another access point based on access point loads determined by AP [0061-0063].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-8, 13-16, 21, 22, 24-26, 32-36, 42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US20040039817A1) in view of Huang et al. (US006701150B1).

2.1 Regarding Claims 5-8, 13-16, 21, 22, 24-25, 32-36, 42-46, Lee discloses the method according to claims 1, 2, 9, 17, 27, 32, 37 & 41 as stated above but does not explicitly disclose messaging protocol via centralized loading balancing control switch according to 5-8, 13-16, 21, 22, 24-26, 32-36, 42-46.

Huang discloses centrally controlled load balancing method and system in which base station transmits corresponding received channel quality information of base stations to network side entity such as mobile control point (claimed switch) in order to centrally controlled roaming between base stations (i.e., switching) [Step 200: Column 3, Line s 2-10][network entity or mobile control point: summary] wherein messaging sequences are according to claims i.e., mobile transmits messages to mobile control point i.e., switch or receive messages from mobile control point via serving access points. Huang also discloses that mobile control point centrally balance network load based on received channel quality information and received aggregate base station load information from base stations [Figure 2 & Column 3].

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of invention of made to modify the Lee's system and method with mobile control point i.e., claimed switch and messaging protocols to centrally control the roaming between access points and centrally balance the network load of base station as taught by Huang to modify as Claims 5, 13, 21 & 22. One of ordinary skilled in the art at the time of invention of made to do this to achieve optimal load balancing in the overall network by more evenly distributes the loading of access points [Huang reference: Column 1, Line 51-55].

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUNG T. WIN whose telephone number is (571)272-7549. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung T Win/
Examiner, Art Unit 2617

/Alexander Eisen/
Supervisory Patent Examiner, Art Unit 2617